09/17/2007

ASARCO

Linda Jacobson (3 Copies)
RCRA Project Manager
US EPA Region VIII
8ENF-T
1595 Wynkoop Street
Denver, Colorado 80202-1129

September 17, 2007

SENT BY CERTIFIED MAIL
RETURN RECEIPT REQUESTED

Dear Ms. Jacobson:

Pursuant to Section VII of the Consent Decree (Decree), Civil Action CV98-3-H-CCL (Corrective Action at East Helena - Proposed Contractor/Consultants), Asarco is hereby notifying the United States Environmental Protection Agency (USEPA) that it has selected Geo-Con (a trade name of Environmental Barrier Company, LLC) as the prime contractor for construction of speiss-dross area slurry wall and temporary cap. I have attached a Statement of Qualifications outlining Geo-Con's environmental remediation and construction services.

Asarco's selection of Geo-Con was based upon their project experience in barrier/cutoff wall technology and techniques by the slurry wall method. The company has constructed over 700 similar slurry wall projects over the past 28 years. Geo-Con's principal expertise is in construction of low permeability soil-bentonite, cement-bentonite, and DSM cutoff barriers. While Geo-Con has been charged with the responsibility of constructing the speiss-dross slurry wall and temporary cap, URS will provide engineering, construction management, and site safety support to this project. A copy of the East Helena Consent Decree has been provided to Geo-Con.

If you perceive any conflicts with Asarco's selection of Geo-Con, please notify me immediately.

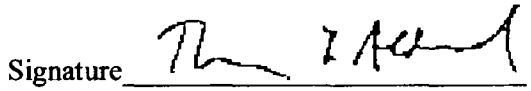
Sincerely,

Jon Nickel

Enclosure
Statement of Qualification

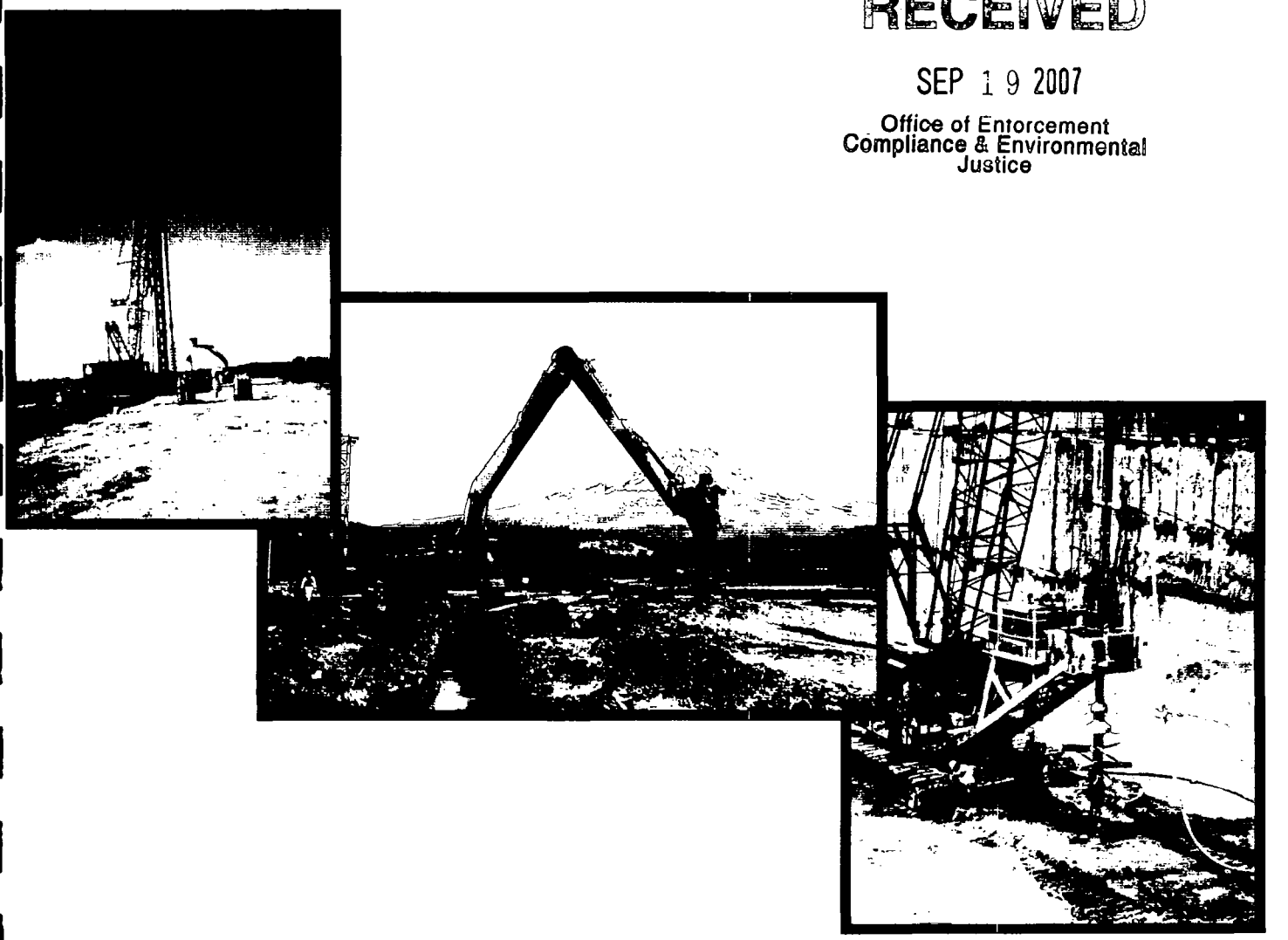
CERTIFICATION
PURSUANT TO U.S. v ASARCO INCORPORATED
(CV-98-3-H-CCL, USDC, D. Montana)

I certify under penalty of law that this notification, selection of Geo-Con as the primary contractor for construction of the speiss-dross slurry wall and temporary cap, was submitted under my direct supervision in accordance with a system designed to assure that qualified personnel gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine or imprisonment for knowing violations.

Signature 
Name: Thomas L. Aldrich
Title: Vice President Environmental Affairs
Date: September 17, 2007

Geo-Con®

Statement of Qualifications



Geo-Con
a trade name of Environmental Barrier Company, LLC
4075 Monroeville Boulevard
Suite 400
Monroeville, PA 15146
412.856.7700

Statement of Qualifications
for
Slurry Cutoff Wall Construction

Company Overview

Over the past 28 years, Geo-Con has evolved from being just a specialty geotechnical contractor into one of the leading environmental construction contractors. That expansion of services was made possible by the transfer of our geotechnical capabilities into new applications. However, we have continued to innovate and successfully sustain our roots in the civil geotechnical industry. Many of our specialized environmental construction technologies, including shallow and deep soil mixing for in-situ fixation or stabilization and permeable reactive groundwater treatment barriers using slurry wall techniques, were derived from our previous experience with civil geotechnical projects. By design, we have invested our time and financial resources towards the development of equipment and processes that advance the science of our specialized technologies.

Geo-Con has a team of experienced managerial, technical and field personnel to provide specialty construction services. The staff members have extensive educational and practical backgrounds in environmental sciences, engineering and construction activities.

Geo-Con also remains at the forefront of providing and applying innovative geotechnical and environmental expertise and continue to seek out and implement new technologies.

Our construction experience and capabilities are focused today in three service areas: environmental remediation, geotechnical construction and wetlands mitigation, enhancement and restoration. Geo-Con can perform in these service areas as a general contractor, a specialty trade contractor, or in a design/build capacity. We remain flexible to meet the needs of our clients nationwide.

Geo-Con's corporate headquarters is in Monroeville, Pennsylvania a suburb of Pittsburgh. Regional offices are located in Florida, Colorado and Pennsylvania. Since our founding in 1979, Geo-Con has successfully completed over 1,500 projects throughout the United States, Canada, Japan, Ireland and Australia.

Small Business Status

Geo-Con is itself a small business in accordance with the U. S. Small Business Administration Standards. Geo-Con has established itself as a good corporate citizen, and recognizes the contributions of small businesses to our local, regional, and national economy. It is the policy of Geo-Con that the maximum practicable opportunity be extended to small, small disadvantaged, and small women-owned businesses. All Geo-Con personnel who have a role in the decision process for creating and approving any subcontract awards are responsible for ensuring that good faith efforts are made to attain our small business/MBE/WBE goal.

Our People

Geo-Con has one of the strongest teams in the industry today that make successful implementation of our projects possible. We have a unique blend of exceptionally qualified managerial, technical and field personnel to provide specialty construction services. Many of our management and field staff have over 25 years of field experience. Our staff's educational background and field experience in both geotechnical and environmental construction, gives Geo-Con the qualifications and expertise to meet even the most difficult challenges for our client's soil, groundwater and land resources development needs.

Relevant Barrier Wall Construction Experience

Geo-Con is a recognized leader in barrier/cutoff wall technology and techniques by the slurry wall method. To date, the company has constructed more than 500 slurry wall projects. While Geo-Con's principal expertise is in low permeability soil-bentonite (SB), cement-bentonite (CB), and DSM cutoff barriers, new techniques to solve special problems are continually being developed.

Slurry Cutoff Walls

Slurry cutoff walls offer a cost-effective solution to groundwater control problems. These nonstructural barriers are constructed to intercept and impede the flow of fluids underground and can be effective for site dewatering, underground pollution containment and seepage barriers under dams. Constructed by excavating a narrow trench under an engineered fluid, the Geo-Con slurry trench technique permits the installation of deep barriers in all types of soil and groundwater conditions. Geo-Con's 500 plus, installations include the construction of impermeable soil-bentonite, cement-bentonite and composite slurry walls. Table 1 identifies representative slurry wall projects constructed throughout the United States.

Geo-Con has also pioneered the use of alternative materials such as attapulgite clay, special cements and silicates for cutoff walls where site leachate conditions and incompatibility prohibited the effective use of bentonite. These techniques have been further modified in constructing cement-attapulgite, soil-attapulgite and cement-bentonite-silicate cutoff walls.

For projects with site conditions that prohibit the use of deep (up to 80') slurry trenches due to soft unstable soils, or high levels of contamination, there are alternatives to the conventional hydraulic excavator and/or clamshell method. Where the risk of a trench collapse would be detrimental, or a structural wall is required, Geo-Con can use our DSM procedure to install a deep (up to 120') vertical barrier by continually injecting a slurry with increasing depth, thus mixing with the soils in-situ. This technique avoids the excavation of contaminated soils while installing an impermeable retaining wall.

Design/Build Capabilities

Geo-Con has proven experience in working with architectural and engineering firms to produce successful and cost effective design/build projects. Through our affiliated engineering and design partners, Geo-Con can offer a turnkey approach to a wide variety of geotechnical and environmental solutions. By combining excellence in design and decades of construction experience, the design/build approach can not only reduce a project's cost and overall duration, but can also serve as a low risk and highly flexible mechanism for the client to work through unforeseen subsurface conditions. Geo-Con has also demonstrated that by having a design/build capability, value engineering can be maximized to the customer's advantage when alternative plans need to be considered. Geo-Con has performed individual design/build projects in excess of $20 million.

These types of projects are only possible with a contractor who is financially sound and technically strong. Geo-Con is able to provide the bonding, insurance, health and safety program, QA/QC, professional staff, field staff, equipment, and project management to ensure a quality design/build project for the full spectrum of services outlined in this SOQ.

Project Experience

The history of Geo-Con projects is a reflection of adaptation to changing markets. Geo-Con is committed to continuously improving our performance capabilities through innovative technologies and value engineering. In the past 28 years, Geo-Con has built up an impressive professional history in both the public and private sectors.

SOIL-BENTONITE AND JET GROUTED IMPERMIX® VERTICAL GROUNDWATER BARRIER

Livonia, Michigan

Contract Amount: $930,252

Client/Reference: Connestoga-Rovers & Associates
14496 Sheldon Road Suite 200
Plymouth, Michigan 48170

Description of Work:

Geo-Con successfully completed a continuous vertical groundwater barrier around a former plant for a client located in Livonia, Michigan. The groundwater barrier was installed using a combination of soil-bentonite slurry wall and jet grouted Impermix® barrier wall. The barrier was installed as part of an interim remedial measure to contain an impacted groundwater plume and prevent influx of additional groundwater into the area. The barrier wall was installed to supplement an existing French drain groundwater pump and treat system. The client's ultimate objective is to sell the site for redevelopment.

Geo-Con installed the 3,040 lf, 85,145 sf vertical barrier to depths of up to 32 feet using a CAT 375 with Geo-Con's custom-built boom and stick attachments. A rigorous Quality Control program assured the required soil-bentonite permeabilities of 1 x 10^{-7} cm/sec were attained during laboratory testing. The barrier wall also incorporated a 10,574 sf jet grouted Impermix® barrier installed using the bow-tie method. The bow-tie method involves installing interlocking jet grout panels, without drill rod rotation, in an alternating zigzag pattern forming a continuous wall. Widths of approximately 4 to 5 inches were achieved and permeabilities of 1 x 10^{-9} cm/sec were attained during laboratory testing. The jet grout method was used due to the proximity of multiple live utilities, which were pre-trenched, encased in concrete, and incorporated into the jet grout barrier.

This project also involved site preparation tasks such as pre-trenching and abandoning utilities/process piping utilized at the former plant as well as a geotextile/clay/stone cap installed after completion of the slurry wall. This project demonstrated Geo-Con's commitment to quality and client satisfaction. During slurry wall installation multiple underground obstructions such as foundations, footers, tunnels, and walls were discovered in the slurry wall alignment. Geo-Con worked closely with the client and their environmental consultant, Conestoga-Rovers & Assosicates (CRA), to develop a successful and cost effective solution consisting of additional jet grouting and slurry wall re-alignment to meet the client's goal of achieving a 100% continuous groundwater barrier through the obstructed areas.

The site was governed by OSHA 1910.120 HAZWOPER standards due to the potential of exposure to metals such as chromium and nickel. Geo-Con performed real time air monitoring throughout the barrier wall installation. No significant air monitoring readings were observed and the project was completed without any lost time incidents.

Start Date: 10/10/04
Completion Date: 12/21/04
Reference: Yes
P04-086

SOIL-BENTONITE SLURRY WALL
MONTEREY No. 2 COAL MINE
Albers, Illinois

Contract Amount: $1,136,000

Client/Reference: Shaw Environmental, Inc.
4400 College Boulevard, Suite 350
Overland Park, KS 66211
Paul Lambert
(618) 248-1011

Owner: ExxonMobil
Frank Serrapere
(618) 248-5121

Description of Work:

Geo-Con installed a slurry wall at the site of a former coal mine. The slurry wall was part of a larger remediation project to close the surface Refuse Disposal Areas (RDAs) of the mine. The slurry wall was designed to prevent mitigation of impacted groundwater off of the site.

The total slurry wall is approximately 180,000 square feet, with depths varying from 32 to 60 feet. The total length of wall is approximately 1,400 feet with a key-in depth of 5 to 8 feet into the underlying clay and bedrock key. Geo-Con created backfill with trench spoils along with dry bentonite at a rate of 2% to achieve permeability in the rage of $1x10^{-8}$ cm/sec.

Quality control on the project included sampling the slurry wall using a drill rig and piston sampler following installation.

Additional scope of Geo-Con's work included stripping and replacing topsoil, erosion controls, slurry wall cap with geo-synthetics, and re-establishing vegetation.

Start: May 2005
Completion: August 2005
P05-021

BAYSHORE PONDS
SOIL-BENTONITE SLURRY WALL
Weld County, Colorado

Contract Amount: $2,669,800

References:

Owner:
Carma (CO), Inc.
Englewood, CO
Tyler Packard
(303) 706-9451

Engineer:
Meurer and Associates
143 Union Blvd
Lakewood, CO
Jodi Villa
(303) 985-3636

Description of Work:

Geo-Con completed the installation of a slurry wall system around a former gravel pit and future reservoir near Firestone, Colorado. The reservoir will be part of a residential development and used for recreation and irrigation water storage. Geo-Con was contracted by the owner on a design-build basis for this project.

The design was completed by Geo-Con along with a subcontracted engineering firm. The design considerations included the permeability of the slurry wall in conjunction with the seepage of the bedrock. A SEEP-2 analysis was completed to determine the total key-in depth. The design also considered the slightly higher permeability in the required Soil-Cement-Bentonite (SCB) sections and numerous utility penetrations. At the completion of the installation, Geo-Con and its engineer completed the monitoring and certification of the slurry wall performance per the State of Colorado 90-day leak test requirements

The total slurry wall installed is approximately 390,000 square feet, with depths varying from 19 to 36 feet. The total length of the wall is approximately 14,000 feet. The wall is keyed 7 feet into the underlying Denver Formation Blue Shale layer. Geo-Con created backfill with trench spoils along with dry bentonite to achieve permeability in the rage of $1x10^{-8}$ cm/sec. This low permeability is required to meet the State of Colorado Engineer's Office requirements for leakage in this type of water storage system. The slurry wall also includes five soil-cement-bentonite sections. These SCB sections were included in the design for added stability and erosion protection for future spillways between the St. Vrain River and the reservoir.

In addition to the slurry wall, Geo-Con's design-build work included the following:

- Structural cap of the slurry wall.
- Installation of 8 new utility penetrations through the slurry wall. These utility penetrations will be used for the future diversion structure and pump house facilities.
- Protection of and excavation around 6 existing utilities (municipal water, natural gas, and petroleum pipeline).
- Removal of sandstone in the slurry trench alignment using a trenching subcontractor.

The significant challenges on this project included working continuously through the winter months, the utility penetrations, and working in narrow areas between the reservoir and the St. Vrain River.

Start: October 2006
Completion: March 2007

P05-003

SOUTH TANI RESERVOIR DAM
SOIL-BENTONITE SLURRY WALL
Thornton, Colorado

Contract Amount: $572,260

Client/GC:
SEMA Construction, Inc.
7353 S. Eagle Street
Englewood, CO 80112-4223
Jud Barlow
(303) 627-2600

Engineer:
GEI Consultants
6950 S. Potomac Street, Suite 300
Centennial, CO 80112
Ed Friend
(303) 662-0100

Description of Work:

Geo-Con installed a slurry wall through an embankment dam. The slurry wall was part of a larger reservoir rehabilitation project to create additional municipal water storage for the City of Thornton Colorado. The dam encloses a former gravel pit.

Two new sections of slurry wall were installed at this site. The new slurry wall is approximately 90,000 square feet, with depths varying from 20 to 45 feet. Total lengths of the walls are approximately 2,500 feet. The wall is keyed 6 to 10 feet into the underlying Blue Shale layer. Geo-Con created backfill with trench spoils along with dry bentonite to achieve permeability in the rage of $1x10^{-8}$ cm/sec. This low permeability will meet the State of Colorado Engineer's Office requirements for leakage in this type of water storage system.

The remaining 100,000 square feet of slurry wall installed is a connection into the existing slurry wall around this site. The connection raised the height of the existing wall by 8 feet and keyed it into the clay core of the new embankment. The embankment height is being raised to provide additional storage in this reservoir.

The key challenges on the project were coordination with the other contractors on the site, meeting the schedule deadlines, and conveying slurry nearly 2 miles around this large site.

Start: 09/21/04
Completion: November 2004
P04-018

Equipment

Geo-Con owns and operates the necessary specialty equipment to perform our work efficiently and cost effectively. This assures the client of the correct piece(s) of equipment for the project. This specialty equipment includes:

Slurry Trenching

Geo-Con owns and operates a fleet of modern slurry wall equipment, much of which was designed and built for our special applications. Long-stick hydraulic backhoes have depth capabilities to 80 feet and our clamshell buckets provide for deeper excavations. The company owns a variety of special purpose excavation buckets and tools to excavate soft soils, cemented sand and weathered rock.

Mixing Equipment

Geo-Con owns more than a dozen high-shear, colloidal slurry mixing plants to continuously produce bentonite, cement, cement-bentonite, bio-polymer, or attapulgite slurry to rigid specifications. A variety of slurry additives can be blended to improve workability or performance of the slurry in special cases. Geo-Con slurry plants are designed to produce fully hydrated slurry without the need of hydration tanks or ponds.

In addition, Geo-Con owns special mobile mixing plants which are capable of blending stiff compaction grout mixes and can also be used for the blending of zero-valent iron and sand backfill mixtures for permeable reactive barriers.

Heavy Equipment

To supplement our owned heavy equipment, Geo-Con has master agreements with various national and regional heavy equipment suppliers throughout the United States.

Geo-Con

EQUIPMENT SPECIFICATION

EQUIPMENT: Long-Stick Excavator

MANUFACTURER: Komatsu with Pierce Pacific Boom and Stick

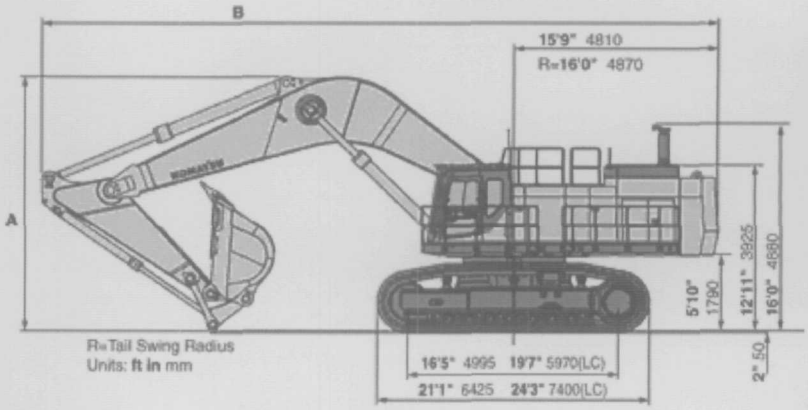
MODEL NO: PC1100LC-6

WEIGHT

- 248,060 lbs

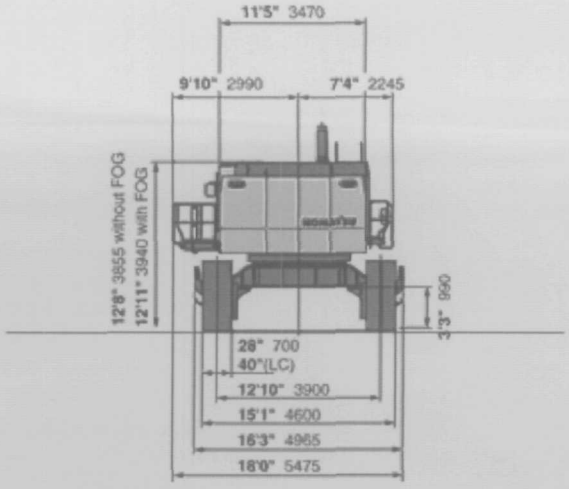
DIMENSIONS

- 18 feet wide
- 22 feet high with standard boom



ENGINE

- Komatsu SAA6D170E-2 diesel engine rated 611 HP @ 1800 RPM
- 4-cycle, water cooled, direct-injection
- Turbocharged and air-to-air aftercooled
- Bore—6.69"
- Stroke—6.69"
- Fuel tank capacity—359.3 gallons
- Hydraulic capacity—177 gallons



HYDRAULIC SYSTEM

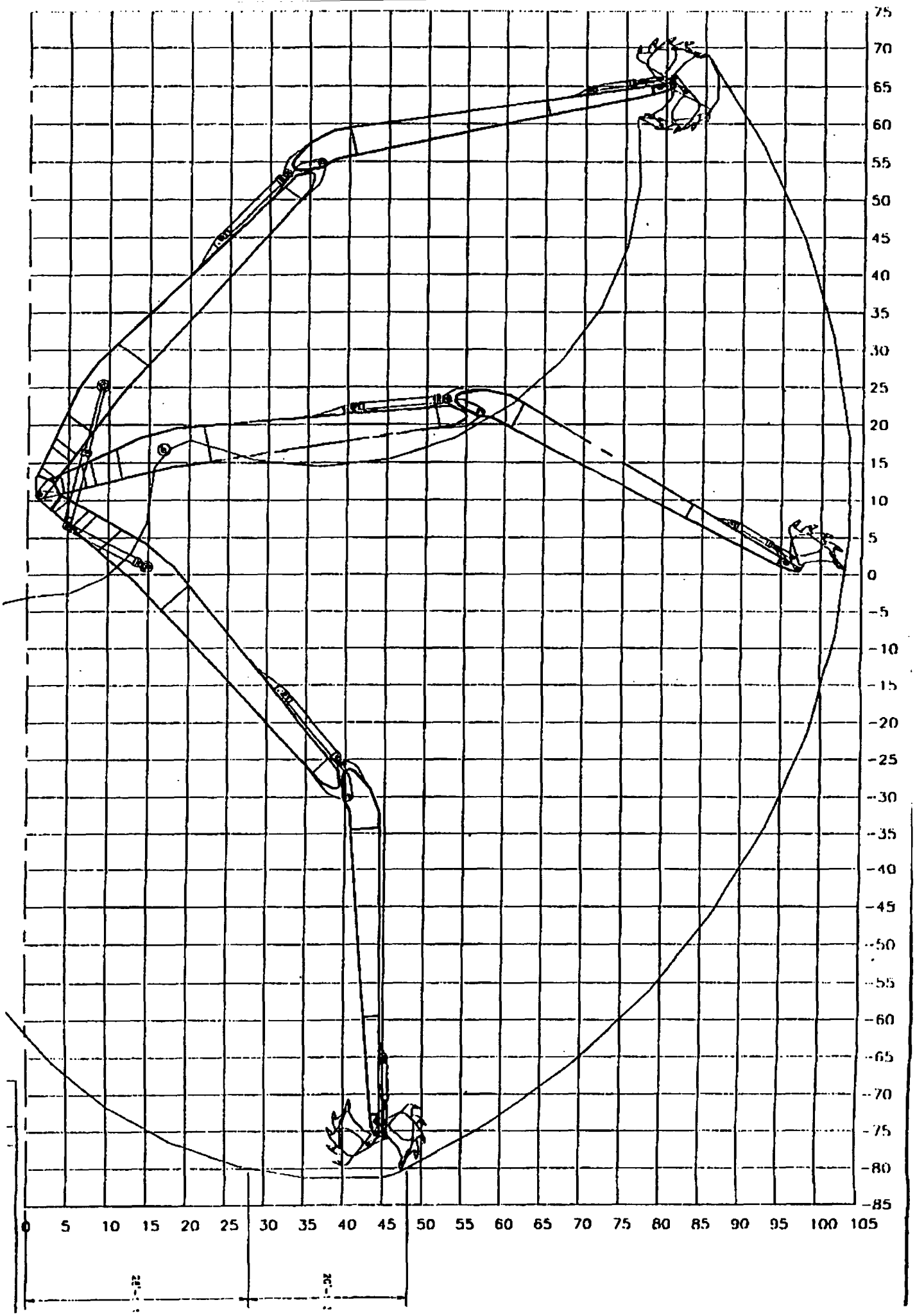
Open-center load-sensing system
Maximum Flow—2x130.5 gpm;1x158.5 gpm

HYDRAULIC MOTORS

Travel—2 x axial piston motor with parking brake
Swing—2 x axial piston motor with swing holding brake

MAXIMUM DIGGING DEPTH

Stock boom and stick—38 feet
Long boom and stick—82 feet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Geo-Con

EQUIPMENT SPECIFICATION

EQUIPMENT: Long-Stick Excavator

MANUFACTURER: Caterpillar with Pierce Pacific Boom and Stick

MODEL NO: CAT 375L – LR – 7/80

WEIGHT

- 181,500 lbs

DIMENSIONS

- 14 feet wide (tracks extended)
- 12 feet high with standard boom

ENGINE

- Caterpillar 3406C ATTAC diesel engine rated 428 HP @ 1,800 RPM
- 4-cycle, water cooled, direct-injection
- Turbocharged
- Bore—5.4"
- Stroke—6.5"
- Fuel tank capacity—261.1 gallons

HYDRAULIC SYSTEM

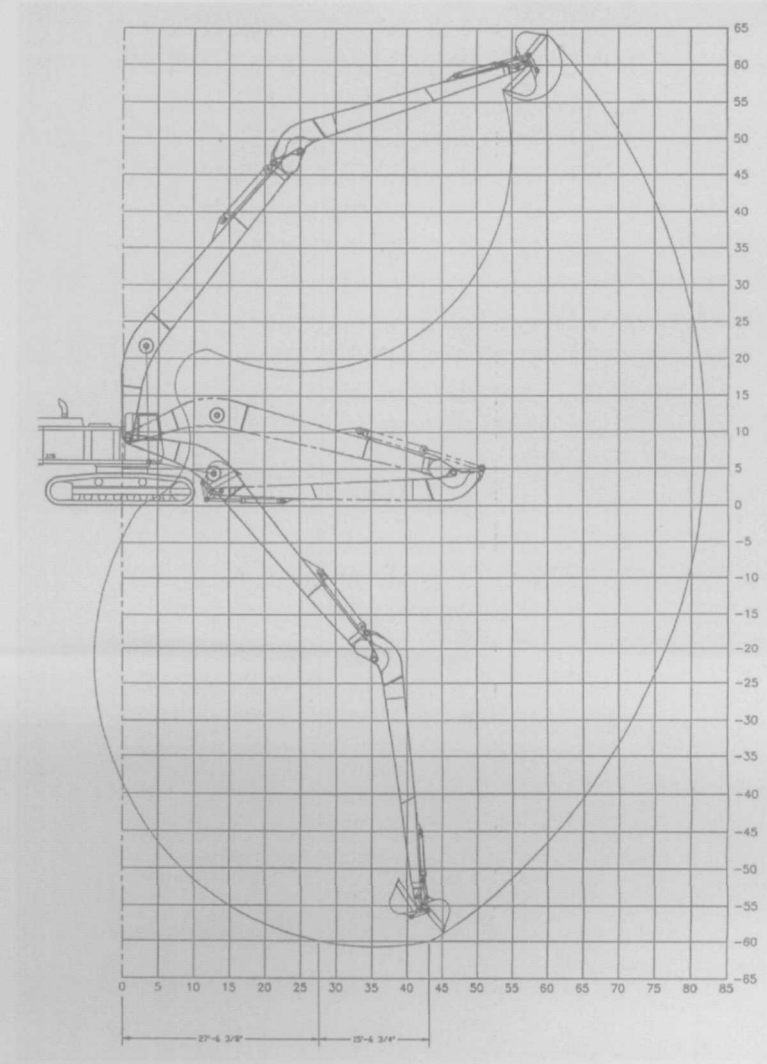
- Hydraulic capacity—262.9 gallons
- Open-center load-sensing system
- Maximum Flow—2x114 GPM

HYDRAULIC MOTORS

- Travel—2 x axial piston motor with parking brake
- Swing—2 x axial piston motor with swing holding brake

MAXIMUM DIGGING DEPTH

Stock boom and stick—25 feet
Long boom and stick—62 feet



HEALTH AND SAFETY PROGRAM

Geo-Con's proactive Health and Safety Program has been developed from management's concern for the health and well being of all employees. Health and Safety is a vital component of company operations which includes safety of employees, accident prevention, protection of project facilities and equipment from misuse / damage, and protection of the general public who come into contact with or are affected by our operations.

Organization and Responsibility

Geo-Con has in-house safety professionals that provide technical input to management in matters regarding health and safety. Also, in order to provide an independent review of our Health and Safety Program, Geo-Con has retained the services of an outside consultant to advise, oversee and provide technical support on health and safety matters to the management and staff of Geo-Con.

The responsibility for the quality and maintenance of this policy and program lies within the company – management, supervision, and employee. Geo-Con's Site Supervisor has the ultimate responsibility for safety on the project.

Site Health and Safety Specialists

The staff consists of Health and Safety Specialists, all of whom have direct education and / or training in the safety and health fields. Experience includes working for such clients as USEPA, DOE, DOT, DOD, USACOE, MDNR, and various clients from private industry. Staff members are well versed in industrial hygiene, general safety, and construction safety.

Training

Our management and field supervisors acknowledge that safety is an integral and inseparable component of our operations. The proper direction and instruction of employees will ensure hazards are identified and measures adopted to eliminate or minimize any inherent risks.

Accident Prevention

All accidents are cause-related and it is Geo-Con's objective to seek out these causes, devise protective measures and promote a safety minded working attitude at all levels within the company. Accident prevention must be instilled into our corporate culture and thereby become the way we conduct our business.

GEO-CON INCIDENT RATES/STATISTICS

TOTAL HOURS WORKED	
YEAR	HOURS WORKED
06	68,918.00
05	67,955.75
04	77,461.00
03	148,997.00
02	273,666.00
01	402,253.00
00	401,644.75

TOTAL OSHA RECORDABLE		
YEAR	TOTAL	RATE
06	0	0.00
05	0	0.00
04	2	5.16
03	2	2.68
02	1	0.73
01	3	1.49
00	7	3.48

LOST WORKDAYS CASES		
YEAR	#CASES	RATE
06	0	0.00
05	0	0.00
04	2	5.16
03	0	0.00
02	0	0.00
01	3	1.49
00	0	0.00

NUMBER OF LOST WORKDAYS		
YEAR	#DAYS	RATE
06	0	0.00
05	0	0.00
04	2	5.16
03	0	0.00
02	0	0.00
01	6	2.98
00	0	0.00

DAYS AWAY FROM WORK CASES		
YEAR	#CASES	RATE
06	0	0.00
05	0	0.00
04	2	5.16
03	0	0.00
02	0	0.00
01	3	1.49
00	0	0.00

NUMBER OF DAYS AWAY FROM WORK		
YEAR	#DAYS	RATE
06	0	0.00
05	0	0.00
04	2	5.16
03	0	0.00
02	0	0.00
01	6	2.98
00	0	0.00

#Cases DAYS OF RESTRICTED WORK ACTIVITY CASES		
YEAR	#CASES	RATE
06	0	0.00
05	0	0.00
04	0	0.00
03	0	0.00
02	0	0.00
01	0	0.00
00	0	0.00

#Days DAYS OF RESTRICTED WORK ACTIVITY		
YEAR	#DAYS	RATE
06	0	0.00
05	0	0.00
04	0	0.00
03	0	0.00
02	0	0.00
01	0	0.00
00	0	0.00

GEO-CON INCIDENT RATES/STATISTICS (Continued)

EXPERIENCE MODIFICATION RATE (EMR)	
YEAR (Apr 1- Mar 31)	INTERSTATE
2007	0.87
2006	1.00
2005	1.00
2004	1.00
2003	0.63
2002	0.63
2001	0.65
2000	0.69

RECORDABLE (But not lost work days)		
YEAR	#	RATE
06	0	0.00
05	0	0.00
04	2	5.16
03	2	2.68
02	1	0.73
01	0	0.00
00	7	3.48

2006 – There were no worker's compensation claims.
2005 – There were no worker's compensation claims.

FIRST AID CASES ONLY

2006 – 2
2005 – 2
2004 – 0
2003 – 0
2002 – 1

Bonding and Insurance

Geo-Con has bonding through Bond Safeguard Insurance Co., a Lexon Insurance Company. Geo-Con's ability to obtain bonding with a treasury-listed surety permits us to be a strong competitor in the environmental remediation, geotechnical construction and wetlands mitigation, enhancement and restoration field.

Geo-Con has an all-inclusive insurance agreement that covers our entire operations. Insurance is provided by Lexington Insurance Co., Zurich American Insurance Co. and Steadfast Insurance Co. for general liability, pollution liability, employer's liability, workers compensation, umbrella policy and auto liability, all with coverages and limits that exceed industry requirements.

Geo-Con®

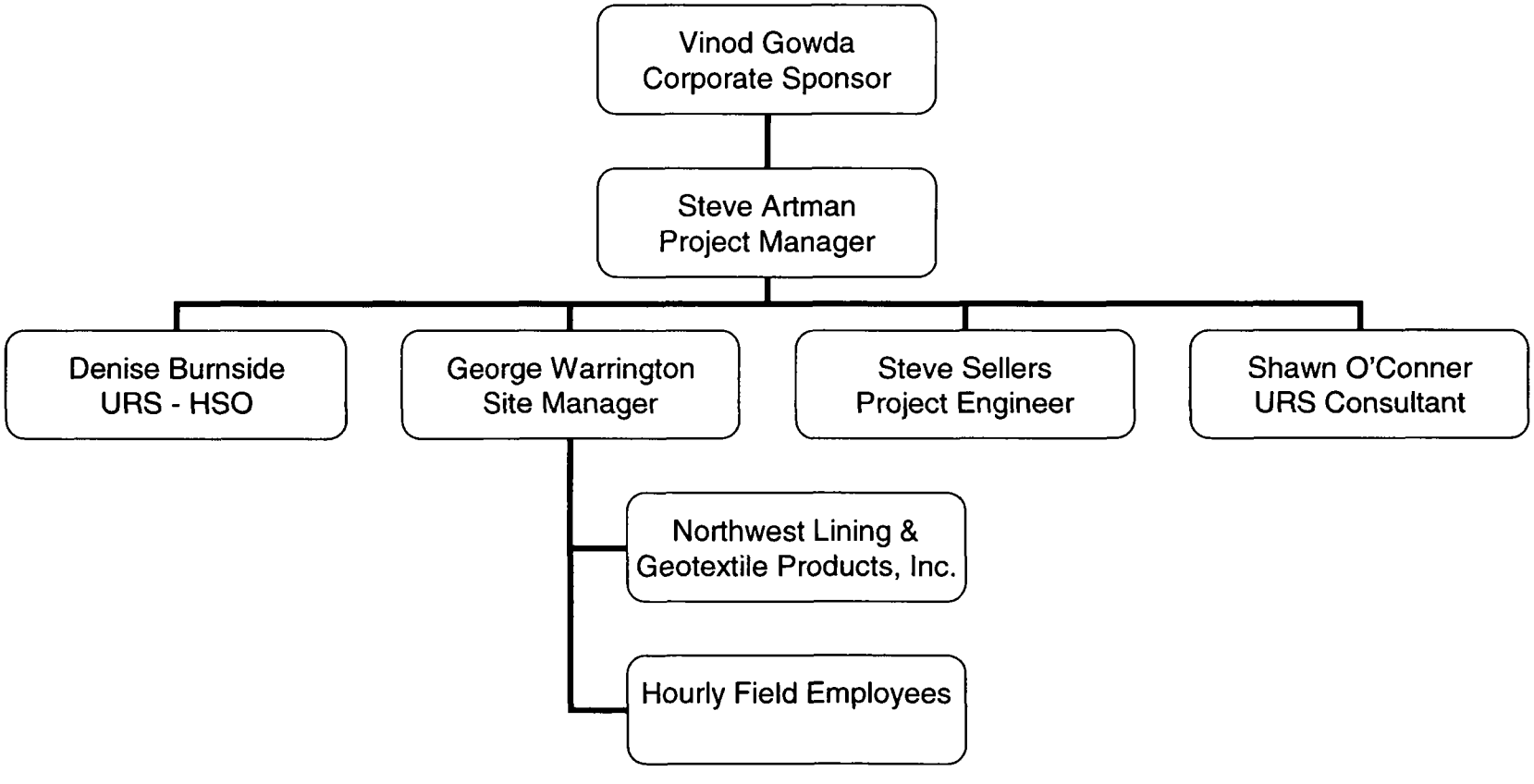
ASARCO East Helena Plant

Former Speiss-Dross Plant Area

Slurry Wall and Temporary Cap

Project No. P07-072

East Helena, Montana



Geo-Con

VINOD JAYARAM GOWDA

Vice President of Operations
Serving as Project Construction Specialist

Mr. Vinod Jayaram Gowda is Geo-Con's Vice President of Operations, responsible for all managerial aspects of operations for Geo-Con. Mr. Gowda has over 18 years of experience in civil engineering design, environmental remediation, construction oversight, contamination assessment and waste management.

Since joining Geo-Con, originally as a Project Manager, Mr. Gowda has managed soil mixing, Permeable Reactive Barriers (PRB), Bio-Polymer collection trenches, site remediation and numerous slurry wall projects, gaining expertise in these construction technologies. Mr. Gowda's expertise also involves remediation of former Manufactured Gas Plant (MGP) sites using soil solidification/stabilization techniques. Mr. Gowda has also been involved in formulating various mix designs for soil mixing and slurry wall projects.

Additionally, prior to his joining the Geo-Con team, Mr. Gowda had extensive civil engineering design and hazardous site investigation/waste management expertise, having worked for many years for a large architectural/engineering firm. This experience, as well as his contracting experience, has provided valuable expertise for Geo-Con's design/build projects.

EDUCATION AND TRAINING

M.E. Environmental Engineering Sciences, University of Florida
B.E. Civil Engineering, Bangalore University, India
40-Hour Hazardous Waste Training
8-Hour Hazardous Waste Supervisory Training
8-Hour Hazardous Waste Annual Refresher
24-Hour MSHA Training
20-Hour Florida Phosphate Council Contractor Safety Program
Phase-1 Environmental Assessment

TECHNICAL EXPERTISE

- Shallow Soil Mixing (SSM) and Deep Soil Mixing (DSM) for various applications including ground improvement and soil stabilization
- Mix Designs
- Permeable Reactive Barrier Walls
- Bio-Polymer Interceptor/Collection Trenches
- Soil-Bentonite and Cement-Bentonite Slurry walls
- Civil Engineering Design
- Contamination Assessment
- Waste Management

REFERENCES

Mr. Edward Walsh
Mira Development, LLC
72 Jonspin Road
Wilmington, MA 01887
978-658-2232

Mr. Jim Reisinger
Integrated Science Technologies
1349 Old Highway 41
Marietta, GA 30060
770-425-3080

Mr. Tyler Packard
Carma (Colorado), Inc.
9110 E. Nichols Avenue, Suite 180
Englewood, CO 80112
303-790-6590

KEY PROJECTS

Lima, OH – Installation of a soil-bentonite low permeability vertical barrier around the perimeter of a storm water control pit. The barrier wall was installed by the in-situ shallow soil mixing (SSM) technique.

Livonia, MI – Installation of a continuous vertical groundwater barrier around a former General Motors Delphi Chassis Plant located in Livonia, Michigan. The groundwater barrier was installed using a combination of soil-bentonite slurry wall and jet grouted Impermix® barrier wall. The barrier was installed as part of an interim remedial action to contain an impacted groundwater plume and prevent influx of additional groundwater into the site.

Orlando, FL – North West Water Reclamation Facility Constructed Wetlands and Lake Augmentation project. The construction of a low permeability soil barrier around the perimeter of constructed wetlands. The barrier wall is located along the centerline of the exterior perimeter dikes or berms around the wetlands. The wall is 8,745 feet long to a maximum depth of 30 feet.

Anderson, SC – Construction of a groundwater collection trench for the collection and pretreatment of contaminated groundwater. The 36-inch wide collection trench, with a maximum depth of 57 feet and length of 200 feet, was excavated using a CAT 375L Excavator with Geo-Con's custom made boom and stick attachment, and backfilled with a well graded ASTM-33 Sand.

Houston, TX – Brio Site Task Force – Jet grouting project that included sealing the bottom of a monitoring well.

Cambridge, MA – The project involved in-situ Shallow Soil Mixing (SSM) of impacted soil (LNAPL and DNAPL) over an area of approximately 2.2 acres. Approximately 103,000 cy of soils were stabilized in-place to an average depth of 22 feet bls for this project. The property is the former location of a Manufactured Gas Plant (MGP).

Cape May, NJ – Fire Training Area, U. S. Coast Guard Training Center: This was a contaminated soil removal project. Approximately 800 cy of soil was excavated and disposed offsite. Approximately 10,000 gallons of groundwater was removed and disposed offsite.

Lakeland, FL - Home Depot: Installation of a VERT wall and performing Shallow Soil Mixing (SSM). Shallow Soil Mixing was performed to an approximate depth 20 feet bls to stabilize the soft clays. Approximately 3200 cy of soil was stabilized. Approximately 15% cement was added to stabilize the soils. Average UCS of 175 psi at 7 days was achieved for the project.

Geo-Con

STEVEN M. ARTMAN

Project Manager

Mr. Artman is a Civil/Environmental Engineer and certified as an Engineer in Training in the state of Pennsylvania. His responsibilities are assisting project management with the technical aspects of projects. This includes field support and quality control, submittals, bidding, estimating, costing, purchasing, and invoicing. Mr. Artman works out of Geo-Con's Denver office.

EDUCATION AND TRAINING

BS, Civil Engineering, The Pennsylvania State University
OSHA 40-hour Basic Health and Safety Training
OSHA 8-hour Supervisory Training
Pennsylvania Engineer-In-Training (EIT) Certified
24-hour DesignCAD Training Course
Part 46 New Miner Training – Surface Non-metal Mines
24-hour New Miner Training - Surface Coal Mines

TECHNICAL EXPERTISE

- Interpretation of and compliance with bid documents
- Implementing and executing QC programs
- Cement-Bentonite soil mixing and batch plant operations
- Soil-Bentonite slurry wall installation
- Cement-Bentonite slurry wall installation
- Deep Soil Mixing methods
- Jet Grouting and HYDRA-MECH□Methods
- Compacted Clay Liner Installation

KEY PROJECTS

Scarborough, ME – Construction of underground soil-cement columns by shallow soil mixing. The soil-cement columns were designed as an alternate to stone columns and were necessary to support construction of a retaining wall at a new retail store.

Gary, Indiana – Installation of a jet-grout containment wall at in Gary, Indiana. The purpose of this containment wall was to mitigate a plume of LNAPL and DNAPL that was leaking into Lake Michigan. Geo-Con proposed and implemented jet grouting in an overlapping "bow-tie" pattern, 42 feet deep, 275 feet long.

Albers, IL – Construction of a soil-bentonite slurry wall around the southern perimeter of a coal mine refuse disposal area site. The slurry wall is 172,860 vsf with an average depth of 42 feet below ground surface.

KEY PROJECTS (Continued)

Canton, IL – Installation of approximately 10,350 vsf of cement-bentonite and approximately 21,000 vsf of soil-bentonite slurry wall.

San Antonio, TX – Rehabilitation of a flood control dam and spillway. The slurry wall was installed at the toe of the dam to prevent leakage under it. The slurry wall was a total of 1400 feet long by 21 feet deep, and included a 140 foot long section installed using cement-slag-bentonite self hardening backfill. The remainder was soil-bentonite slurry wall.

Danville, IL – Installation of a Permeable Reactive Barrier (PRB) at a manufacturing facility. This PRB was installed to treat a plume contaminated with TCE and other chlorinated solvents used at this facility. The PRB was designed with an iron-sand mixture as the reactive media.

Thornton, CO – Installation a slurry wall through an embankment dam. The slurry wall was part of a larger reservoir rehabilitation project to create additional municipal water storage for the City of Thornton Colorado. The dam encloses a former gravel pit.

Orlando, FL – North West Water Reclamation Facility Constructed Wetlands and Lake Augmentation project. Construction of a low permeability soil barrier around the perimeter of a constructed wetlands. The barrier wall is located along the centerline of the exterior perimeter dikes or berms around the wetlands. The wall is 8,745 feet long to a maximum depth of 30 feet.

Brighton, CO – Installation of a slurry wall around a sand and gravel pit adjacent to the South Platte River near Brighton, CO. The gravel pit will be used for municipal water storage once mining of the property is completed. The slurry wall encircles the site and also traverses the center of property to create 2 separate cells. The slurry wall is a total of approximately 580,000 square feet, with depths varying from 35 to 70 feet. The total length of wall is approximately 13,000 feet. The wall is keyed 4 feet into the Denver Blue shale formation.

Empire, CO – Installation of 160,625 sf of soil-bentonite slurry wall to depths of 95 feet. This project is part of a larger dam and reservoir project.

Rocky Mountain Arsenal, Commerce City, CO (Haz Level B/D) – Treatment of 26,000 cubic yards of contaminated soil using pugmill stabilization. The soil was the contents of formal disposal pits on the former Army weapons arsenal. The contaminants included heavy metals and pesticides. Treatment was accomplished by blending soil with cement in the pugmill, which bound the contaminants. The treated soil was then hauled to the on-post landfill. Due to the high contamination and the potential for encountering chemical weapon agents, the majority of the project was completed in Level B protection.

KEY PROJECTS (Continued)

Rocky Mountain Arsenal, Commerce City, CO (Haz Level D) - Construction of a 550,000 square foot Hazardous Waste Landfill cell on a CERCLA (Superfund) Site. The cell consists of a double lined system, with each layer consisting of Compacted Clay, 60 mil HDPE Geomembrane, and Geocomposite drainage material. The system also includes two sets of leachate pumps and a dual-containment conveyance system for Leachate Collection and Leak Detection. The cell is being constructed to accept "on-post" waste from the decommissioning of a US Army chemical weapons manufacturing facility.

Montgomery Point Lock and Dam, White River, AR – Construction of 320,000 sq. ft. of soil-bentonite slurry walls and 46,000 sq ft. of cement-bentonite slurry walls. The slurry walls provide temporary and permanent seepage barriers as well as adding stability for construction of a new lock and dam. Coarse aggregate was added to the soil-bentonite backfill mixture to provide added stability.

Pennsylvania DOT, Danville, PA – Construction of a permanent shoring system for a new roadway project. Deep Soil Mixing with cement slurry and steel H-Beams was used to create the shoring system. The shoring was installed along either side of a residential street where a new 600' tunnel will be built. The shoring will allow excavation and construction of the tunnel without disturbing or damaging the homes only a few feet away.

Louisiana Offshore Oil Port, Galliano, LA – Construction of a slurry wall extension around a brine pond. The extension was keyed into the existing slurry wall to allow enlargement of the existing pond. A soil-cement cap was placed on top of the slurry wall.

Rocky Mountain Arsenal, Commerce City, CO (Haz Level D) - Construction of a Groundwater Extraction System, a 200' extraction trench was constructed using the Bio-Polymer trench method. The collection pipe was placed in the bottom of the trench and the trench was backfilled with granular drainage material, a well, pump, and conveyance piping was installed to extract contaminated ground water.

Kelly Air Force Base, San Antonio, TX (Haz Level D)- Construction of a 36,260 SF, 3 FT wide, 48 FT deep Soil-Bentonite Slurry Cut-off Wall, to prevent contamination of groundwater by a Hazardous Plume. Along with the soil mixing work also included Jet Grouting, 8,303 SF, with a Cement-Bentonite mixture around utilities penetrating the Soil-Bentonite Barrier Cut-off Wall.

Madill, OK – Construction of a Slurry Wall on the site of a proposed Dam. The Dam would be built to create a new reservoir. The Slurry Wall was installed to prevent leakage under the Dam.

KEY PROJECTS (Continued)

Honolulu, HI – Construction of underground columns and bearing platform using shallow soil mixing with cement. The columns and platform were designed as an alternate to stone columns and were necessary to support new jet fuel tanks at the Honolulu Airport.

Boise Cascade-Jackson, AL - Project Engineer/Quality Control Officer for a 46,865 square feet of soil-aggregate-bentonite slurry wall through two embankments. The slurry wall was 19.0 feet deep with a 36-inch width. The cutoff wall was to provide embankment stability as well as acting as a groundwater seepage barrier. Pea gravel was proportionally added to the soil-bentonite backfill to comply with backfill gradation specifications.

International Paper - Longview, WA (Haz Level D) - Quality control for a 50,000 sq. ft. soil-bentonite slurry wall to contain groundwater polluted with creosote. Slurry wall was capped with soil-cement-bentonite.

Duluth, MN - Solidification/stabilization of 35,000 cy of coal tar contaminated soil using Shallow Soil Mixing..

06/06

Geo-Con

GEORGE WARRINGTON

Site Manager
Serving as Project Slurry Wall Specialist

Mr. Warrington serves as a Site Manager working for the Northeastern Region. Mr. Warrington has over 27 years experience in the construction industry. He is primarily responsible for the daily supervision of work crews and equipment. Mr. Warrington has successfully supervised work crews involved in slurry wall installations, landfill capping and construction, and estuary restorations.

EDUCATION AND TRAINING

40-Hour Hazardous Waste Training - 29 CFR 1910120
8-Hour Geo-Con Supervisory Training
8-Hour Annual Refresher Training

TECHNICAL EXPERTISE

- Slurry Wall Installations
- Cement-bentonite
- Soil-bentonite
- Bio-polymer trenches and PRBs
- Landfill Construction, Capping & Closure
- Site Preparation and Heavy Earthwork
- Pipe Installation
- Geosynthetics Installation
- Erosion and Sediment Control Structures
- Hydraulic Dredging

REFERENCES

Mr. Chris Meincke MS, PE
Connestoga-Rovers & Associates
14496 Sheldon Road, Suite 200
Plymouth, MI 48170
734-453-5123 phone
734-453-5201 fax
Livonia, Michigan Project

Mr. Bill Nelson
Stanek Constructors
651 Corporate Circle, Suite 200
Golden, CO 80401
303-980-8233 phone
303-980-8145 fax
Thornton, Colorado Project

REFERENCES (continued)

Mr. Tyler Packard
Carma Colorado, Inc.
188 Inverness Drive West
Englewood, CO 80112
303-706-9451 phone
303-706-9453 fax
Weld County, Colorado Project

KEY PROJECTS

Weld County, CO – Design-build project to construct a 14,000 lf slurry wall around a former gravel pit.

Thornton, CO - Geo-Con installed a slurry wall around a former sand and gravel pit along the South Platte River. The slurry wall was part of a larger reservoir project to create additional municipal water storage for the City of Thornton Colorado.

Shoreham, NY – In-situ treatment of soil contaminated with silver and cadmium by the jet grouting method within a national historic site. The scope of work consisted of 175 columns grouted from 100 to 25 feet below the ground surface. The 4-foot diameter columns were installed in an overlapping pattern to provide 90 to 100 percent coverage. The columns were installed through obstructions consisting of wood timbers, steel and concrete.

Scarborough, ME - Geo-Con installed soil-cement columns using in-situ shallow soil mixing. The purpose of the soil mix columns was to improve the shear strength of the soil under a future retaining wall. The project was part of the construction of a new Super Wal-Mart.

Sparrow's Point, Maryland - To facilitate the additional loading of an existing landfill, Geo-Con installed a series of soil-mix columns at the base of the landfill to address the potential failure of the underlying soils. The soil mix columns extended through a soft clay layer, adding the shear strength necessary to safely increase the height of the landfill without the possibility of slope failure.

Gainesville, Florida – Grading and stabilization of a 575-foot long segment of the Sweetwater Creek stream channel. Channel improvements included grading of the channel alignment, installation of rock-filled gabion mattresses and baskets, and turf reinforcement mat on the stabilized slopes above the channel lining.

KEY PROJECTS (continued)

Gary, Indiana – Installation of a jet-grout containment wall at in Gary, Indiana. The purpose of this containment wall was to mitigate a plume of LNAPL and DNAPL that was leaking into Lake Michigan. Geo-Con proposed and implemented jet grouting in an overlapping "bow-tie" pattern, 42 feet deep, 275 feet long.

Lima, OH – Installation of liners, geonet and aggregate cover.

Canton, IL – Installation of approximately 10,350 vsf of cement-bentonite and approximately 21,000 vsf of soil-bentonite slurry wall.

Muskegon, MI – Construction of a funnel and gate remedial system.

Wilmington, DE – Construction of a 225 acre urban wildlife refuge by creating pools and broadening high and low marsh area to increase the extent and duration of tidal flooding.

Livonia, MI – Installation of a continuous vertical groundwater barrier around a former General Motors Delphi Chassis Plant located in Livonia, Michigan. The groundwater barrier was installed using a combination of soil-bentonite slurry wall and jet grouted Impermix ® barrier wall. The barrier was installed as part of an interim remedial action to contain an impacted groundwater plume and prevent influx of additional groundwater into the site.

Lima, Ohio – Soil Mixing – Site Supervisor for installation of an in-situ soil mixed vertical barrier wall. Over 200 overlapping columns were installed to create an impermeable barrier wall to minimize migration of subsurface contaminants within a former sludge pit at an active petroleum refinery. Developed mix designs to meet permeability requirements and maintain support of vehicular traffic.

Dallas, Texas – Soil Mixing - Installation of 3,917 soil-mixed columns to improve subgrade soil conditions to facilitate construction a toll plaza. Developed and implemented cost saving techniques to minimize cement-grout use mixing time and spoils generation.

Orlando, FL – North West Water Reclamation Facility Constructed Wetlands and Lake Augmentation project. Construction of a low permeability soil barrier around the perimeter of a constructed wetlands. The barrier wall is located along the centerline of the exterior perimeter dikes or berms around the wetlands. The wall is 8,745 feet long to a maximum depth of 30 feet.

KEY PROJECTS (continued)

Empire, Colorado – Site Supervisor for the installation of 160,625 sf of soil-bentonite slurry wall to depths of 95 feet. This project is part of a larger dam and reservoir project.

Brighton, Colorado – Site Supervisor for the construction of 520,000 sf of soil-bentonite slurry wall to depths of 50 feet keyed into Denver blue shale. Installation was part of a project to seal off a gravel pit for reservoir retention pond.

Carrollton, Texas – President George Bush Turnpike – Site Manager for implementation of ground improvement of soft waste impoundment sludge to support construction of a toll plaza and associated roadways. The project involved installation of over 3,900 soil cement columns by the shallow soil mixing method. Columns were 4-foot diameter and ranged from 12 to 20 feet deep and were installed with a specialized single auger soil mixing rig. Key tasks included site preparation, grout preparation, pre-drilling, soil mixing, spoil disposal, and quality control.

Flushing, New York – Construction of a 66,500 sf Excavation Support System utilizing Geo-Con's Deep Soil Mixing technology. The wall includes overlapping soil-cement columns extending down to 90 feet below grade, and incorporates steel soldier pile beams 55 feet deep for enhanced structural stability.

Bala Cynwood, PA – Project to remove oil-contaminated soils and to contain oil leakage in the Schuylkill River near Philadelphia. The project involved installation of a portable dam in the river prior to removal of contaminated sediments and river bank soils. A concrete footer and shot-crete wall was installed to prevent further leakage. All work was performed from the top of an existing retaining wall using long reach equipment underneath low overhead electrical lines.

Decatur, Illinois – The $2.9M landfill rehabilitation project included installation of 280,000 square feet of soil bentonite slurry cutoff wall, 4,000-foot long collection trench and related earthwork. Earthwork included over 17,000 cy of impermeable clay cap, construction of 15k cy slurry wall work pad, and 20,000 cy general fill and spoils removal. Slurry wall construction was complicated by steep grades over 15%, high groundwater table and numerous buried obstructions. The collection trench was installed using Bio-Polymer (BP) slurry methods.

KEY PROJECTS (continued)

Somersworth, New Hampshire – Superintendent for construction of a full scale Permeable Reactive Wall. This project consisted of constructing a Chemical Treatment Wall (CTW) at the same location where a test section was successfully constructed in the previous year. The project consisted of excavating a 915 feet long trench, 2-ft to 2.5 ft wide to bedrock surface (average of 39 feet) under B-P slurry. The trench was excavated in panels (33 feet to 50 feet long) and backfilled with different proportions of iron/sand mixture.

Staten Island, New York - The project involved the construction of over 1,200,000 vsf of both soil-bentonite and cement-bentonite cut-off wall installation surrounding two active landfills at the Fresh Kills Landfill complex. Supervised field crews during the soil-bentonite wall installation. Depths ranged from 25 to 60 feet deep.

Maurice River Township, New Jersey - The project involved the construction and restoration of over 450 acres of tidal wetlands. Oversaw hydraulic dredging operations/production as well as performed Quality Control functions relative to dredging operations.

Commercial Township, New Jersey - The project involved the construction and restoration of over 4,500 acres of tidal wetlands. Supervised field operations during upland dike construction, layout of channel system as well as oversight of subcontractor hydraulic dredging operations.

Meyersville, New Jersey - The project involved the excavation and stabilization of asbestos material and constructing and capping a landfill of the stabilized material. Supervised a variety of field operations in Level B, C, and D personal protection as appropriate during a comprehensive Superfund site closure. These activities included: asbestos waste excavation, waste stabilization, batch plant operation, installation of geosynthetics, final grading, and surface drainage system installation.

Ramapo, New York - The project involved the cap and closure of a sanitary landfill. Supervised the installation of the geosynthetic liner, deep leachate pipe installation, surface drainage structure installation, wetland restoration and final grading.

URS OFFICE LOCATION

Helena, Montana

EDUCATION

B.T., 1984, Northern Montana College
Havre, MT

A.S., 1983, Northern Montana College
Havre, MT

CONTINUING EDUCATION

Hazwoper Certified
Butte MT (2007)

Microstation® J, MDT, Helena, MT (1998)

Geopak®, MDT, Helena, MT (2003)

Microstation® V8, MDT, Helena, MT (2003)

AutoCAD® Review, URS, Helena,MT (2003)

Intro to GPS,Trimble® Pathfinder Office, TerraSync Software, Kalispell, MT (2003)

PROFESSIONAL HISTORY

URS Corporation, Senior Designer/Project Manager (2001 to Present)

Montana Department of Transportation, Highway Designer (1984-2001)

PROFESSIONAL SUMMARY

Mr. O'Connor is a Senior Designer and Project Manager with 23 years of professional experience. Mr. O'Connor's experience with roadway design includes 17 years with the Montana Department of Transportation with 10 years as a senior level designer. His areas of expertise are: Roadway Design, Preliminary Bridge Layout, Hydraulic Layout and Computer Aided Design.

REPRESENTATIVE EXPERIENCE

URS Corporation

Asarco Demolition Project, Asarco Plant – East Helena: Demolition oversight for environmental clean-up project located in East Helena, Montana

Fairfield Grain Storage Site, Anheuser-Busch Company: Construction oversight for foundation placement and backfill for 11 grain bins located in Fairfield, Montana

Lewistown West Overpass, Montana Department of Transportation: Project Manager and Primary designer for a road reconstruction project west of Lewistown, Montana.

Harlowton - North, Montana Department of Transportation: Project Manager and Primary designer for a road reconstruction project near Harlowton, Montana at the junction of MT 12 and MT 191.

Butte Sand Pit – South of Butte, Montana Department of Transportation: Mining and reclamation plan for a sand pit project south of Butte, Montana.

Horse Prairie Creek – Northwest of Grant, Montana Department of Transportation: Compiled data for a hydraulic modeling and analysis on a bridge replacement project near Grant, Montana.

Cherry Creek – North of Terry, Montana Department of Transportation: Compiled data for a hydraulic modeling and analysis on a bridge replacement project north of Terry, Montana.

Blackfoot River Bridge Design, Montana Department of Transportation: Primary designer for the road reconstruction section for the bridge replacement project near Helmville, Montana at the junction of MT 141 and MT 200.

Lewistown West Overpass, Montana Department of Transportation: For this project's EA, conducted the preliminary design for the realignment and widening of a 3.4 km segment of US 87 in central Montana.

Lewistown–Grass Range Corridor Study, Montana Department of Transportation: For this project's EA, conducted the preliminary design for the realignment and widening of a 46.6 km segment of US 87 in central Montana.

West Fork Stillwater River Bridge Design, Montana Department of Transportation: Primary designer for the road reconstruction section for the bridge replacement project near Nye, Montana

Fairfield to Dupuyer Corridor Study, Montana Department of Transportation: For this project's EIS, conducted the preliminary design for the realignment and widening of an 80 km segment of US 89 in north central Montana.

GPS Wetlands Mapping

Imported the wetland mapping using a Trimble® Pro XRS GPS resource grade receiver with Trimble® Pathfinder Office software into state plane coordinates. Labeled and calculated delineated wetland areas and impacts to these wetlands using Microstation®.

Montana Department of Transportation

Lame Deer – East and East of Lame Deer – East, Montana Department of Transportation: Primary designer for the 20.1 km of highway reconstruction and realignment project on US 212 between Lame Deer and Ashland.

Missouri River Bridge - South of Wolf Point, Montana Department of Transportation: Primary designer for the road reconstruction section for a bridge replacement project near Wolf Point, Montana

Haynes Ave. Miles City, Montana Department of Transportation: Primary designer for an urban realignment on the east side of Miles City.

Glendive - East, Montana Department of Transportation: Primary designer for a 27.3 km interstate overlay project just east of Glendive.

AREAS OF EXPERTISE

- Containment Systems
- Hazardous and Solid Waste Management
- Waste Remediation
- Landfill Restoration
- Soil Mechanics
- Foundation Engineering

EDUCATION

University of Colorado: M.S., Civil Engineering, 1979

Purdue University: B.S., Civil Engineering, 1977

REGISTRATION

Professional Engineer: Colorado, Washington

PROFESSIONAL HISTORY

URS Corporation, Senior Project Engineer, 1998 to present

Woodward Clyde, Senior Project Engineer, 1979 to 1998

University of Colorado, Research Assistant, 1977-1979

AFFILIATIONS

American Society of Civil Engineers

REPRESENTATIVE EXPERIENCE

Mr. Hawk has more than 28 years of experience in the fields of hazardous and solid waste remediation and geotechnical engineering. Projects have included barrier wall design and installation, design and remediation of industrial and private landfills, landfill restorations, Superfund remedial response, tailing disposal facilities, fossil fuel power plants, oil shale facilities, earth fill dams, and large waterway construction. Mr. Hawk specializes in barrier walls and landfill containment facilities having worked on over 100 containment and remediation sites across the nation and overseas. Specific barrier wall assignments include:

- Lehigh Cement Company Shallow Soil Mix Barrier Wall, Metaline Falls, Washington. Lead Engineer for stability review of shallow soil mix (SSM) barrier wall for groundwater remediation at the Lehigh Cement Company site. Provided certification of the inherent stability of the barrier under construction conditions for Geo-Con.
- Confidential Client, Evaporative Pond Barrier RCRA Corrective Action, Intermountain West. Lead Engineer for design and construction plans and specifications for installation of a self-hardening slurry containment wall to mitigate pond leakage along a two-mile dike crest. Pond constituents include high levels of chlorides and low level radioactive elements from processes at the plant site. A thin wall, vibrated beam barrier installation was selected for the corrective action after evaluation of multiple technologies. The ability to install the barrier without generating waste excavation, navigation of the limited access dike crest and cost-effectiveness were key issues in the technology selection.
- ConocoPhillips Westlake/Mercer Cleanup, Seattle, Washington. Lead Engineer for design of shoring and barrier systems for excavation support and dewatering control during contaminated soil excavation from the City of Seattle ROW at a major intersection. Project included construction scheduling, traffic control, structural shoring support system design, permitting and construction support.
- Former Rhone-Poulenc Facility Interim Measures Site Remediation, Tukwila, Washington. Lead Engineer for barrier wall selection, design and installation at this site on the Duwamish Waterway south of Seattle. The project featured an Impermix barrier wall installed with vibrated

beam technology. The Impermix and thin wall barrier methodology was selected due to its chemical compatibility with groundwater contamination and reduced risk of slurry loss to the sensitive water body. This was the first use of the vibrated beam barrier wall technology in the Northwest region of the United States.

- Philip Services, Georgetown Facility Interim Measures Site Remediation. Lead Engineer for barrier wall selection and design at this former hazardous waste storage and handling facility in Seattle, Washington. Project included barrier compatibility with TCE contaminated groundwater, stability analysis for deep trench installation adjacent to an active rail line and intermodal facility and vibration impacts on sensitive structures.
- Tongue Point Landfill Closure design, former Navy disposal area located near Astoria, Oregon. Provided design services for a 60 ft deep, 1600 ft long soil/bentonite cutoff wall and closure of the contaminated landfill site. The project included design of the barrier wall and capping systems and preparation of final drawings and specifications for construction. In addition to the soil/bentonite barrier wall and landfill cover system, the project includes LNAPL removal and treatment, and nearshore contaminated sediment removal and disposal.
- Construction Management Services, Confidential Client, Alberta, Canada. Provided construction management services for contaminant remediation involving sheet pile barrier wall installation and sludge stabilization at a petrochemical plant in Alberta, Canada. Provided consultation for cutoff wall selection, design and installation, design of utility corridor barriers for contaminant migration control and oversight for stabilization and capping of several thousand cubic meters of contaminated sludge in an on-site lagoon.
- Mine Waste Barrier Wall Construction, BPU-Utah Mines, Vancouver Island, British Columbia. Construction quality control and seepage analysis for a 140-feet deep, 4000-foot long plastic concrete barrier wall through mine waste rock at a mine site on Vancouver Island, B.C.
- Slurry Cutoff Wall Design, Confidential Client, Baton Rouge, Louisiana. Consultation for design, plans, and specifications of a slurry cutoff wall to control leachate and contaminated groundwater at an existing hazardous

waste landfill located near Baton Rouge, Louisiana.

- Construction Consultation Services, Exxon petrochemical plant, Benecia, California. Provided consultation services during construction of a 30-foot deep contaminated groundwater collection trench using biodegradable slurry trench construction techniques.
- Technical Review of the Herbert Hoover Dike Improvement project at Lake Okeechobee, Florida. This project for the US Army Corps of Engineers involves installation of a barrier wall along the outward slope of a 100-mile dike system to reduce seepage and improve dike stability. Mr. Hawk consulted on constructability issues in the early design stages of the project and prepared a technical review memorandum for the design team. The first phase of the project involves a 4 mile "test section".
- Groundwater Treatment Project remediation design and construction management, Hewlett Packard, Loveland, Colorado. Task Manager for design, plans, and specifications for TCE contaminated groundwater recovery and treatment at Hewlett Packard's operating plant facility near Loveland, Colorado. Provided construction management services for installation of the groundwater collection and remediation systems.

PUBLICATIONS

Available upon request.

Denise Burnside

Safety Professional
206.390.3909 / dburnside1@msn.com
Seattle, Washington 98118

Areas of Expertise

Safe Work Practices

Years of Experience

With URS: + 1 Year
With Other Firms: 16 Years

Education

College Certificate, Technical Degree, Clover Park Tech College, Tacoma, Washington
Sheet Metal Worker, Local #66

Registration/Certification

N/A

Overview

- 16 years of construction experience, 9 yrs. Field Work, 3 yrs. Project Management, 5 yrs. Construction Safety
- Manage Site Safety, PPE, Tailgate Meetings, JSA's, Behavioral Based Safety Culture, Site Audits, Zero Injury Jobsite
- DOT/CDL Fleet Program Manager & Supervisor
- Manage New Employee Orientation and Drug Testing Programs
- OSHA 300 Log, Claims Management, Return to Work Program, Labor & Industries Hearings
- Employee Training Coordinator
- OSHA 10 and 30 hour training; HAZWOPER Certificate
- Accident Investigations
- Certified Traffic Control Flagger, Medic First Aid Provider
- Maintain Safety Program & Accident Prevention Plan, Create Site Safety Plans, Spill Response, HAZCOM, Evacuation Plan, Generate JHA's, Weekly Safety Talks, Audits
- Site Erosion, Environmental Air Quality, Recycling Programs, Water Quality – TESC
- Supervise & coordinate daily crew activities, dispatch manpower, timecards, maintain inventory
- Coordination with vendors, Owners, owner reps, GC & Subcontractors, communicate with Foreman, Change Orders, Cost Coding, Schedules, RFI, Estimate to Complete, Billing Submittals, O&M's, Permits, As Builts
- Installation to code; AHU, VAV, CRAC, ductwork, architectural projects
- Familiarity with Blueprints / Engineered drawings & napkin sketches

Project Specific Experience

Ms. Burnside has performed construction safety at:

- Westlake Mercer Cleanup Project for Conoco Phillips
- Sound Transit (Light Rail)
- Hood Canal Bridge project
- Port of Seattle (SeaTac, Shilshole and the Waterfront)
- Des Moines Marina
- King County Public Works projects
- Issaquah Highlands Infrastructure
- Washington State Department of Transportation (WSDOT)

URS

Denise Burnside

Project Management experience includes:

- Sound Transit
- SeaTac STEP project
- Microsoft
- COLO.COM
- Funsters Casino
- Epoch Biosciences

Specialized Training

2004: Construction Site Erosion and Sediment Control Cert; AGC
2004: Accident Prevention Training – SMART Association
2004: Right to Know Training – Puget Sound Area Safety Summit
2003: OSHA 10 & OSHA 30 – US Dept of Labor
2003: WISHA Inspection Training – SMART Association
2003: EverSafe Driving Program – Evergreen Safety Council
2003: Confined Space Entry – SMART Association
2003: Fall Protection – SMART Association
2003: Developing Effective Respiratory Protection Programs – Puget Sound Area Safety Summit
2003: Trenching, Shoring and Excavation – Washington Dept of Labor and Industries
2003: Power and Mobile Crane Safety – Puget Sound Area Safety Summit
2003: Construction Electrical Safety / Lockout - Tagout Seminar – SMACNA
2003: South Seattle Community College – Physics, Business, Spanish
2001: Project Management; Level I – MCA
1999: Bloodbourne Pathogens, Aerial Work Platforms, Forklifts, Power Tools Safety - SMACNA
1999: Effects of Alcohol and Drugs in the Work Place – Trades Mentor Network
1997: Clover Park Technical College – Diploma
1988: Supervisor Training; Zenger-Miller

Chronology

2006 – present: URS Corporation, Safety Professional
2005: INNOVAC, Commercial Operations Manager, Safety Officer
2004-2005: Elcon Corporation, Safety Director, Project Mgr Assistant
2003: Approach Management Services, Safety and Health Specialist
2001-2003: University Mechanical Contractors, Project Engineer
1991-2001: McKinstry Company, Project Engineer, Journeyman HVAC/Sheet Metal Worker